

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appel. No. : 10/647,169
Applicant : Atsushi NAKAJIMA et al
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Examiner: : Helene G. Klemanski
For : INK-JET IMAGE FORMING METHOD
Docket No. : 03486/HG
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DECLARATION UNDER 37 CFR 1.132

Atsushi NAKAJIMA, declares that he is a co-inventor of the invention described and claimed in the above-referenced application.

He received a Master's Degree Applied Chemistry from Hokkaido University in March of 1988. Since April of that year he has been employed by Konica Corporation, now named as Konica Minolta Medical & Graphic, Inc., the Assignee of the above-referenced application, where he has been engaged in research and development in the field of heat transfer image formation processes and an ink-jet recording technology.

WO 02/36660, one of the references cited by the Examiner, describes the preparation method of three oxetane compounds

(Examples 1-3). The compound of Example 2 was prepared in the same manner as described in page 6 of WO 02/36660. Example 2 was selected because it has the smallest viscosity (120 mPa.s) among three Examples 1 to 3, the property of which is expected to be appropriate for an ink-jet ink among three compounds. The following testing shows that the ink, in fact, is not useful in a method of forming an image as defined in claims 11 and 12.

Thus prepared Example 2 was used to prepare a magenta ink in the same manner as preparation method of Magenta Ink 2A (page 63 of the present specification) except that Oxetane compound 9A was substituted with Example 2.

Thus prepared magenta inks are referred to below as Magenta Ink WO. Magenta Ink WO was loaded on the same ink-jet printer used for image recording described in the present specification (page 65).

It was found that the viscosity of Magenta Ink WO was too large to allow jetting droplets of ink from the nozzles of the ink-jet head.

Then, Magenta Ink WO was coated on a polyethylene terephthalate film substrate with a wired bar in order to check "Ink Curability" and "Substrate Adhesion Property".

The coated sample was evaluated in the same way described in page 66, lines 12 to 20; and page 67, lines 1 to 11.

The evaluation results are shown in the following table.

Ink No.	Printing Ambient (%RH)	Ink Curability	Substrate Adhesion Property
Magenta Ink WO	20	B	B
Magenta Ink WO	80	C	C

The results are explained in the specification at pages 66-67, with Tables of results for the present invention on the following pages. As can be seen from a comparison with the present invention, the present invention method provides an image which is superior, especially with respect to substrate adhesive properties.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001, of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Date: May 11, 2005

Atsushi Nakajima
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